Title:

Coal Combustion Residuals and Agremax™ Dust Control Plan

Approvals:

	Signature	Date
Approved by: Pedro Labayen		4/7/17
Reviewed by: Carlos M. Gonzalez		4/7/17
Environmental Coordinator Hector Avila		4/7/17
Elias Sostre Operations Manager		4/10/17
Manuel Mata President		4/7/17

Distribution List:

1. CCP Area
2. Material Handling
3. Environmental Coordinator
4. Operations & Maintenance Area
5. Plant Manager

6.3. **Agremax™ / Stockpile.**

Description: Agremax™ is a cementitious aggregate material which forms a surface crust resulting in limited fugitive dust emissions. It is stored in an open storage pile that continuously changes in shape and volume; this state of flux limits the practicality and effectiveness of permanent or fixed structural controls like windbreaks. Emissions may be generated from the initial Agremax™ conveyor drop discharge into the Stockpile Area, pushing by heavy equipment to create a stockpile, loading and unloading of dump trucks to remove or add Agremax™ to a stockpile and for off-site transportation, pushing Agremax™ into the crusher feeding the conveyor to the dock and from wind erosion of stockpile surfaces. The maximum stockpile work area is about 6.17 acres.

Control Methods and Equipment: Daytime and night time wet suppression of stockpile surfaces by ten Sime Skipper mobile sprinkler guns (each sprinkler can cover an area up to 1.2 acres, therefore providing more than enough wetting capacity for the complete Agremax™ stockpile), daytime wet suppression of stockpile surfaces (including side slopes) by water truck with adjustable angle water cannon, fixed water spay nozzles at conveyor drop discharge point, reduced drop heights for truck loading, hose wetting of crusher feed and dump truck unloading , surface roughening - compaction of stockpile surfaces with bulldozer, stockpile ridges at right angles to prevailing winds, confining loading and unloading to downwind side of stockpile, watering of exposed areas before forecasted high winds. The combined efficiency of all the Agremax™ moisture content controls described should be well above the 90 % reported just for watering storage piles. In contrast, control efficiencies of only 75 % can be expected from providing 3-sided enclosures e.g., wind breaks with 50 % porosity making such control unnecessary and burdensome.

Frequency of Application: Around the clock and at the beginning of the work shift, and as required to keep stockpile surfaces wet.

Monitoring: Twice during each shift

Recordkeeping: Dust Control Inspection Checklist

6.4. **Ash / Transfer to Bulk Trailers**

Description: Fugitive dust emissions may be generated during the chute connection and disconnection steps required for loading ash from the elevated storage silos into bulk trailers for off-site transportation.

Control Methods and Equipment: Discharge drop height control using articulated- telescopic loading spout, enclosed loading area, wet suppression with water spray nozzles at west side of loading bay, truck- trailer cleaning with water hose before leaving the loading bay.

Frequency of Application: Each loading

Monitoring: Twice Daily

Recordkeeping: Dust Control Inspection Checklist

6.5. **Ash / Power Block Outage**

Description: Fugitive dust emissions may be generated during the discharge of bottom ash from the heat exchangers into a small stockpile on the floor of the Power Block Area during outages (twice/year).

Control Methods and Equipment: The floor surface is not exposed to precipitation, a vacuum truck is used to collect the bottom ash from the floor.

AES Puerto Rico

Dust Control Checklist

Control Equipment

Skipper Sprinkler Guns (10)	_____ Operational	_____Not Operational
Water Truck (1)	_____ Operational	_____Not Operational
Broom Sweeper (1)	_____ Operational	_____Not Operational
Vacuum Truck	_____ Operational	_____Not Operational
Large Water Hoses ( )	_____ Available	_____Not Available

Paved Haul Roads

Surface in Good Condition	_____ Yes	_____ No
Wet Surfaces	_____ Yes	_____ No
Blowers or Dry Sweeping Used	_____ Yes	_____ No
Visible Emissions	_____ Yes	_____ No
Visible Speed Limit Signs Posted	_____ Yes	_____ No
Spilled Materials	_____ Yes	_____ No
Tracked Sediments	_____ Yes	_____ No
Wheel Washer Station	_____ Yes	_____ No
- Adequate Water level	_____ Yes	_____ No
- Adequate Aggregate Depth	_____ Yes	_____ No
- Aggregate Surface Clean	_____ Yes	_____ No

Haul Trucks

Within Speed Limits	_____ Yes	_____ No
Within Established Routes	_____ Yes	_____ No
Covered with Tarp	_____ Yes	_____ No

Free of Debris _____ Yes _____ No

Adequate Freeboard _____ Yes _____ No

Low Loading Drop Height _____ Yes _____ No

Unpaved Haul Roads

Wet Surface _____ Yes _____ No

Aggregate Cover _____ Yes _____ No

Over Watering Observed _____ Yes _____ No

Road Erosion Observed _____ Yes _____ No

Visible Emissions _____ Yes _____ No

Conveyors

Silos to Stockpile Fully Enclosed _____ Yes _____ No

Stockpile to Dock Silos Fully Enclosed _____ Yes _____ No

Water Applied at Conveyor Drop Point _____ Yes _____ No

Water Applied at Crusher Feed _____ Yes _____ No

Visible Emissions _____ Yes _____ No

Fixed Transfer Points

Silos to Stockpile Water Sprays Operational _____ Yes _____ No

Stockpile Crusher Feed Wet _____ Yes _____ No

Conveyor to Marine Vessel
Telescoping Spout Operational _____ Yes _____ No

Silos to Bulk Trailers
Telescoping Spout Operational _____ Yes _____ No

Leak Proof Spout Connection _____ Yes _____ No

Ash Silos Water Curtain Operational _____ Yes _____ No

Agremax Stockpile

Wet Stockpile Surfaces _____ Yes _____ No

Water Sprays Overlap _____ Yes _____ No

Chemical Dust Suppressants Used _____ Yes _____ No

Activities on downwind side _____ Yes _____ No

Slope Surface Roughening /Compaction _____ Yes _____ No

Ridges at Right Angles to Prevailing Winds _____ Yes _____ No

Slope Erosion Observed _____ Yes _____ No

Visible Emissions _____ Yes _____ No

Power Bock Outage

Bed Ash Stockpile Removal With Vacuum Truck _____ Yes _____ No

Wind Speed_____ **Wind Direction**_____

Comments:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name / Signature_____

Date_____ Time_____

Dust Control Activity Flow Chart